



## STEM & CTE UPDATE

**Mark Lewis**

STEM/CTE Policy Director  
Chief Education Office

**Laura Roach**

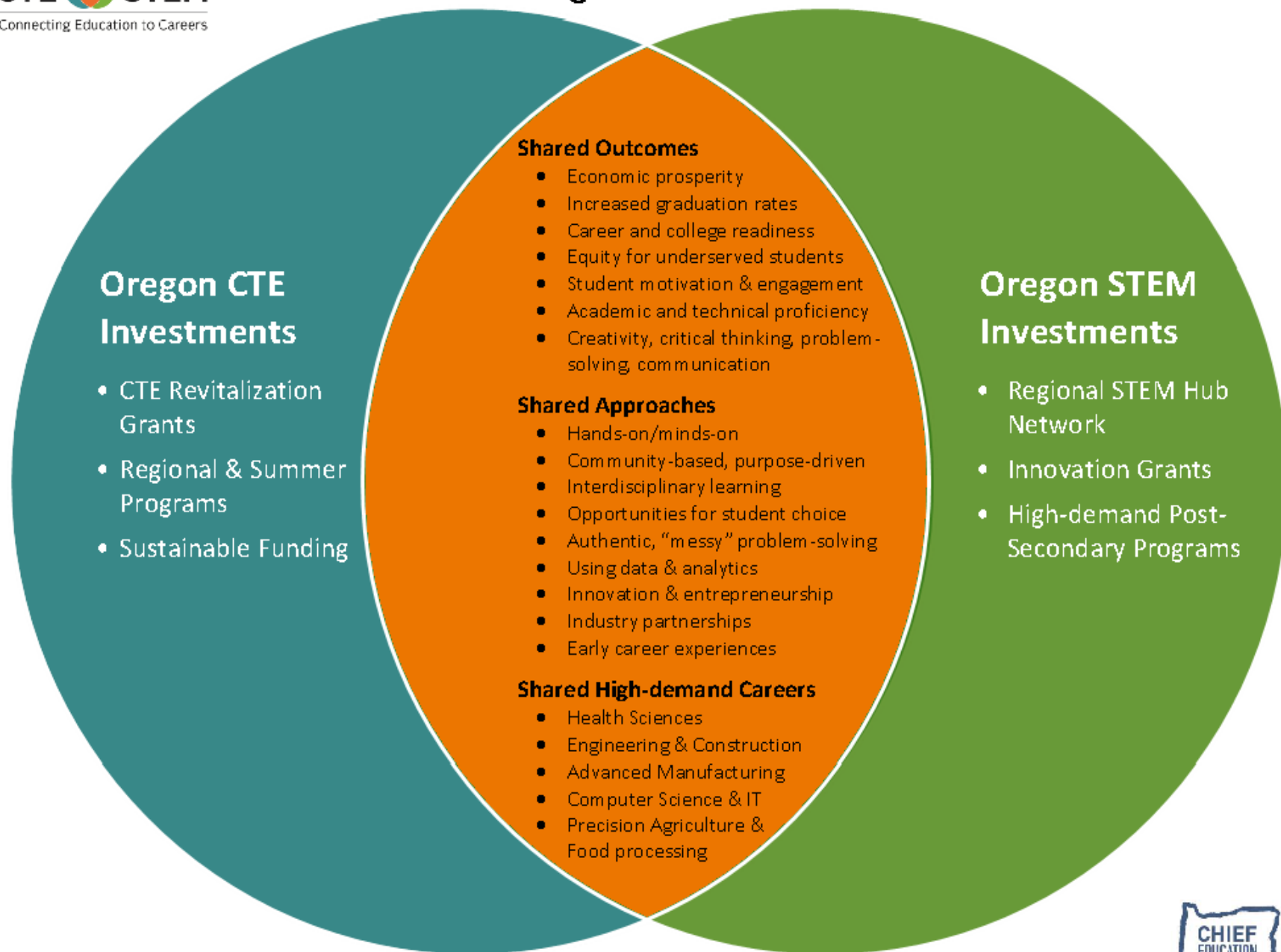
CTE Director, Dept. of Education

**Patrick Crane**

Director, CCWD

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## Connecting Education to Careers



# High Quality Jobs

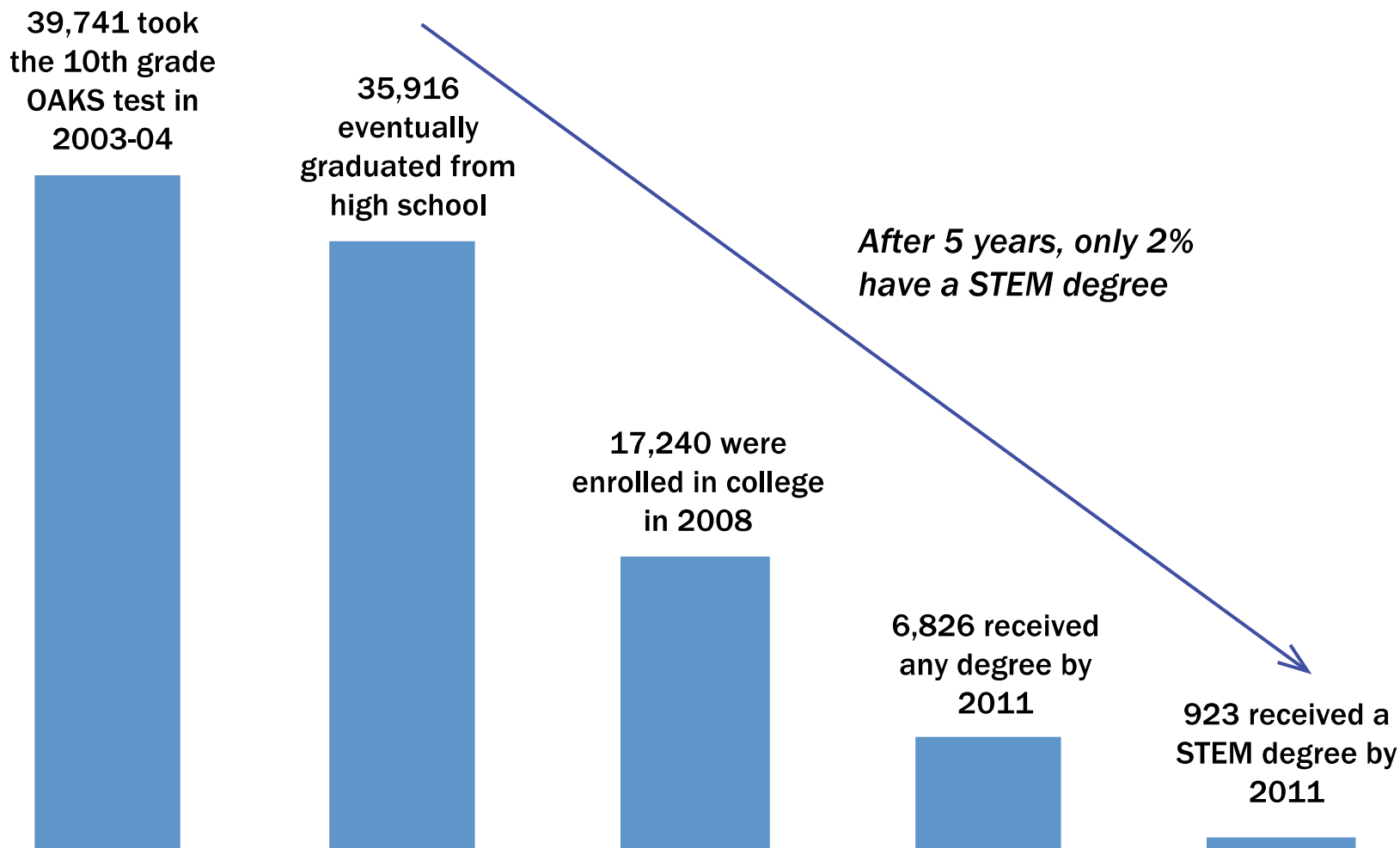
	Non-STEM Job	STEM Job	% Difference
High School Diploma or Less	\$15.55	\$24.82	60%
Some College or Associate Degree	\$19.02	\$26.63	40%
Bachelor's Degree Only	\$28.27	\$35.81	27%
Graduate Degree	\$36.22	\$40.69	12%

STEM = higher lifetime earnings (~25% more on average)

- Higher state tax revenues
- More \$ in the economy
- Family wage jobs and break cycle of poverty
- Decreased reliance on social services



## STEM Outcomes for the Class of 2005



Source: ECONorthwest analysis of ODE and National Student Clearinghouse data.



# STEM Investment Council

- Established by HB 2636 (2013)
- Advance Science, Engineering, Technology and Mathematics (STEM) education goals to drive economic growth:
  - By 2025, **double** number of students proficient in math and science
  - By 2025, **double** post-secondary STEM degrees and certificates



# STEM Investment Council

Chief Education Officer

Higher Education  
Coordinating Commission

Universities  
Community Colleges

Oregon Department of  
Education

Early Learning Division

Youth Development  
Council

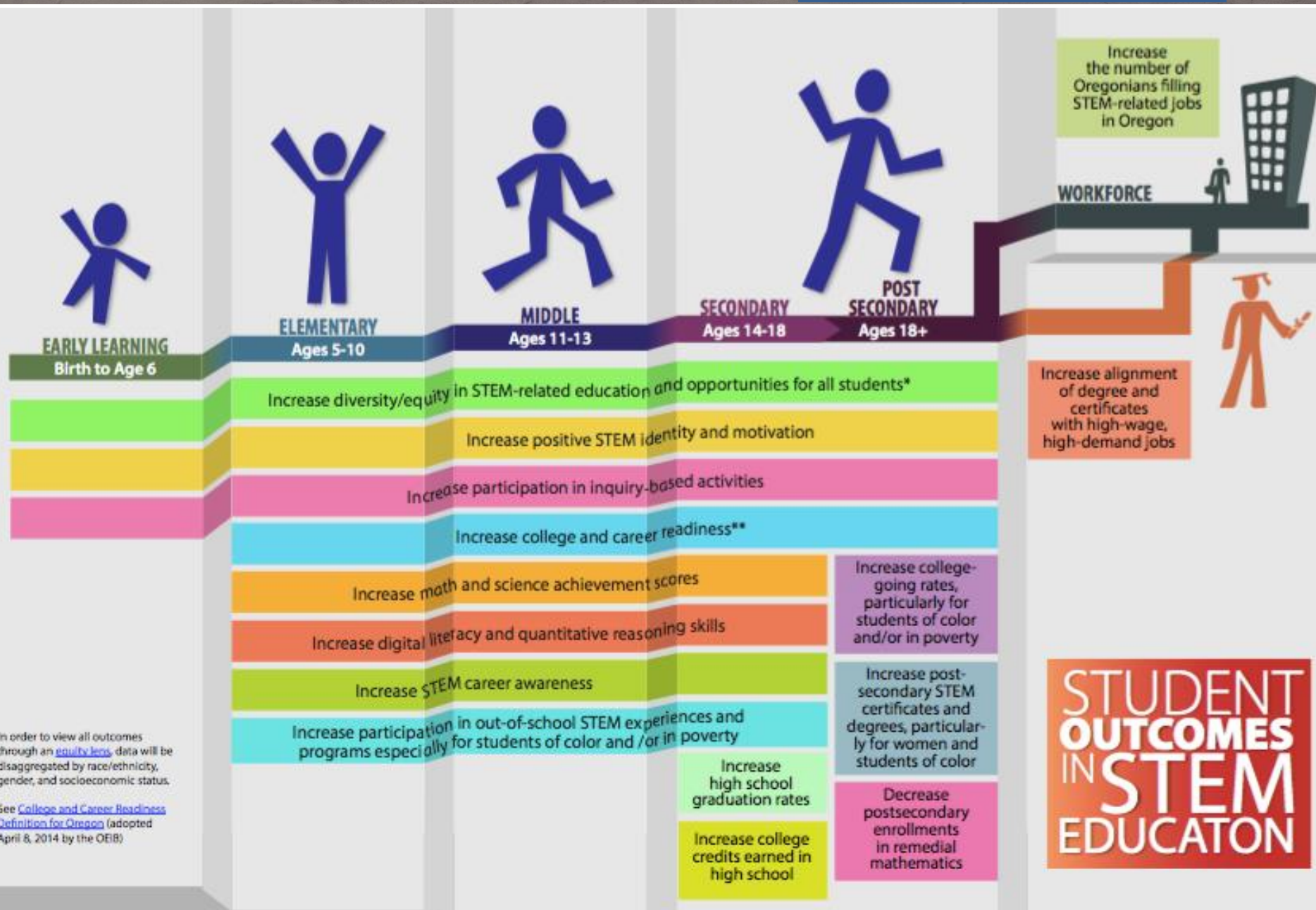
## STEM Investment Council

- Develop STEM Strategy
- Engage industry & other partners
- Guide & support innovation initiatives
- Recommend investments and policies
- Define outcomes & metrics
- Monitor impact of investments

Advisory Committee



## Student Outcomes



\* In order to view all outcomes through an [equity lens](#), data will be disaggregated by race/ethnicity, gender, and socioeconomic status.

\*\* See [College and Career Readiness Definition for Oregon](#) (adopted April 8, 2014 by the OEIB)

**Vision:** To build an inclusive, sustainable, innovation-based economy by reimagining and transforming how we educate and empower individuals and communities.

## GOALS

1. **Inspire and empower our students** to develop the knowledge, skills, and mindsets necessary to thrive in a rapidly-changing, technologically rich, global society.
2. **Ensure equitable opportunities and access** for every student to become a part of an inclusive innovation economy.
3. **Continuously improve the effectiveness**, access to resources, and the number of formal and informal **STEM educators**.
4. **Create sustainable and supportive conditions** to achieve STEM outcomes aligned to Oregon's economic, education, and community goals.





# HB 3072

## Regional STEM Hubs, \$5m

- ❖ “Backbone” Coordination functions
- ❖ Program Funding
- ❖ Scale-up Initiatives

## STEM Innovation Grants, \$4.75m

- ❖ Mathematics
  - Pilot adaptive learning platforms
  - “Math in real life” – contextualized professional development
- ❖ Digital Literacy & Computer Science
- ❖ Out of School network and programs

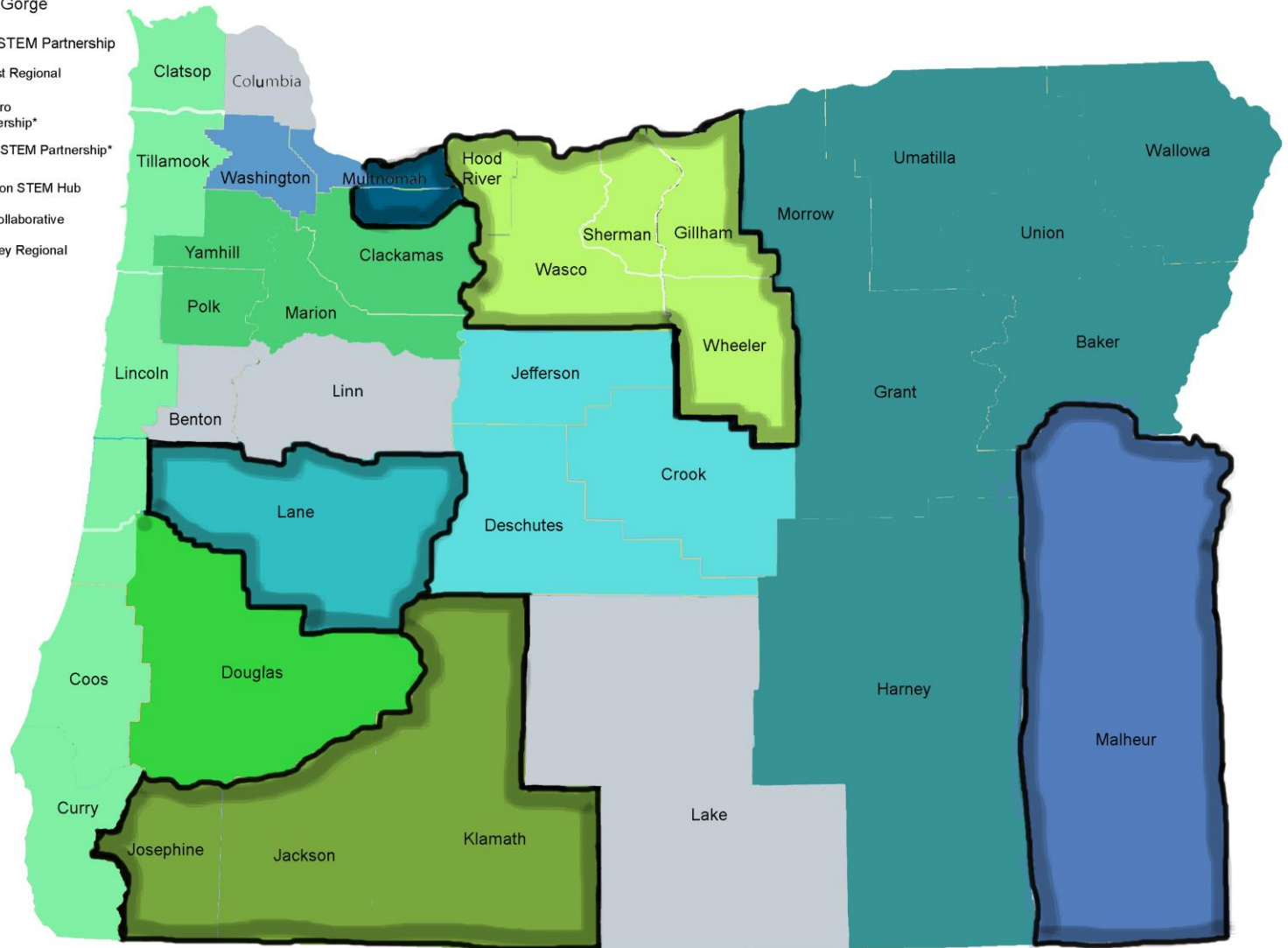
## Post Secondary Success, \$2m

- ❖ Underserved and underrepresented students
- ❖ Support services: Recruitment, retention, attainment



## Oregon's STEM Hubs 2015-2017

- Frontier Oregon
  - Lane County
  - Southern Oregon STEM Hub
  - Columbia Gorge
  - East Metro STEM Partnership
  - Oregon Coast Regional STEM Hub
  - Portland Metro STEM Partnership\*
  - South Metro STEM Partnership\*
  - Central Oregon STEM Hub
  - GO STEM Collaborative
  - Umpqua Valley Regional STEAM Hub
- \*Hubs Overlap



# K-12 CTE Initiatives

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Oregon 2014-2015  
CTE Participants Enrollment

	Number of Secondary Students	Number of Postsecondary Students
<b>GENDER</b>		
Male	22,279	29,834
Female	18,414	30,356
<b>RACE/ETHNICITY *(1997 STANDARDS)</b>		
American Indian or Alaskan Native	559	861
Asian	1,847	2,431
Black or African American	714	1,396
Hispanic/Latino	8,256	7,192
Native Hawaiian or Other Pacific Islander	244	295
White	27,098	39,017
Two or More Races	1,975	2,155
Unknown		8,738
<b>SPECIAL POPULATION AND OTHER STUDENT CATEGORIES</b>		
Individuals With Disabilities (ADA)		2,260
Disability Status (ESEA/IDEA)	4,065	
Economically Disadvantaged	18,968	22,082
Single Parents	135	0
Displaced Homemakers	0	0
Limited English Proficient	725	1,469
Migrant Status	809	
Nontraditional Enrollees	8,235	0

Participants:

- Secondary = 40,693
- Postsecondary = 60,190

Concentrators:

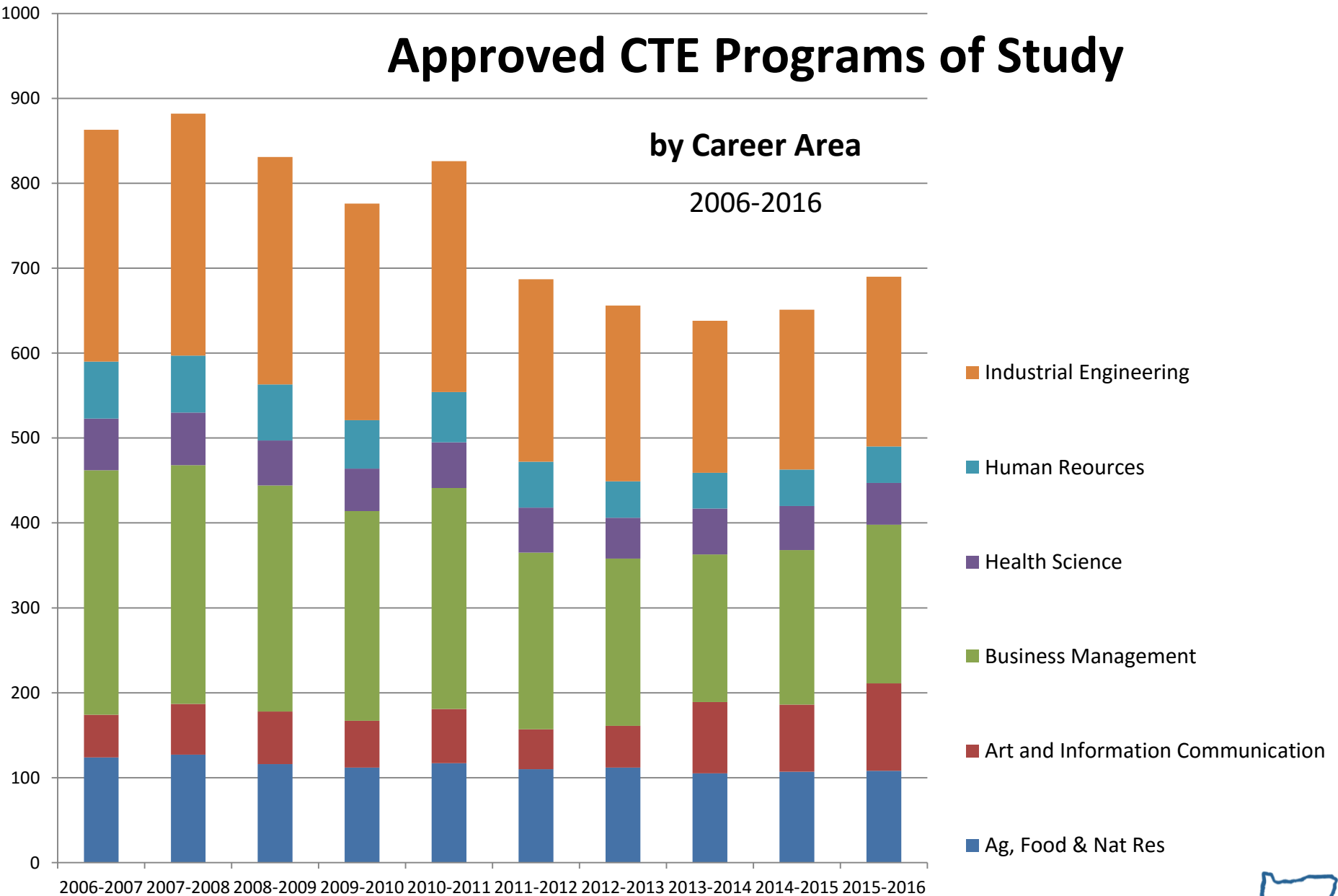
Secondary = 18,182  
Postsecondary = 21,656



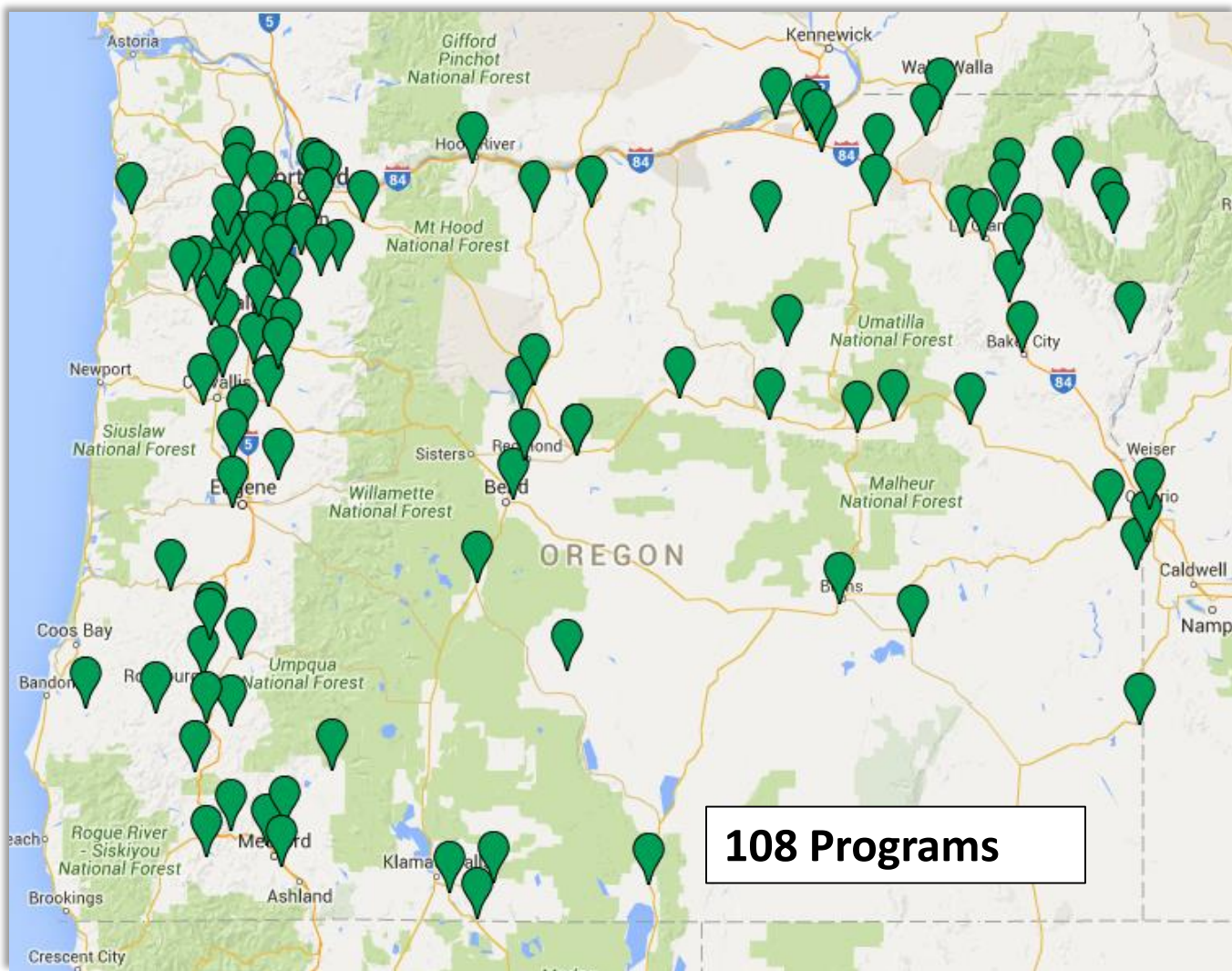
# Approved CTE Programs of Study

by Career Area

2006-2016

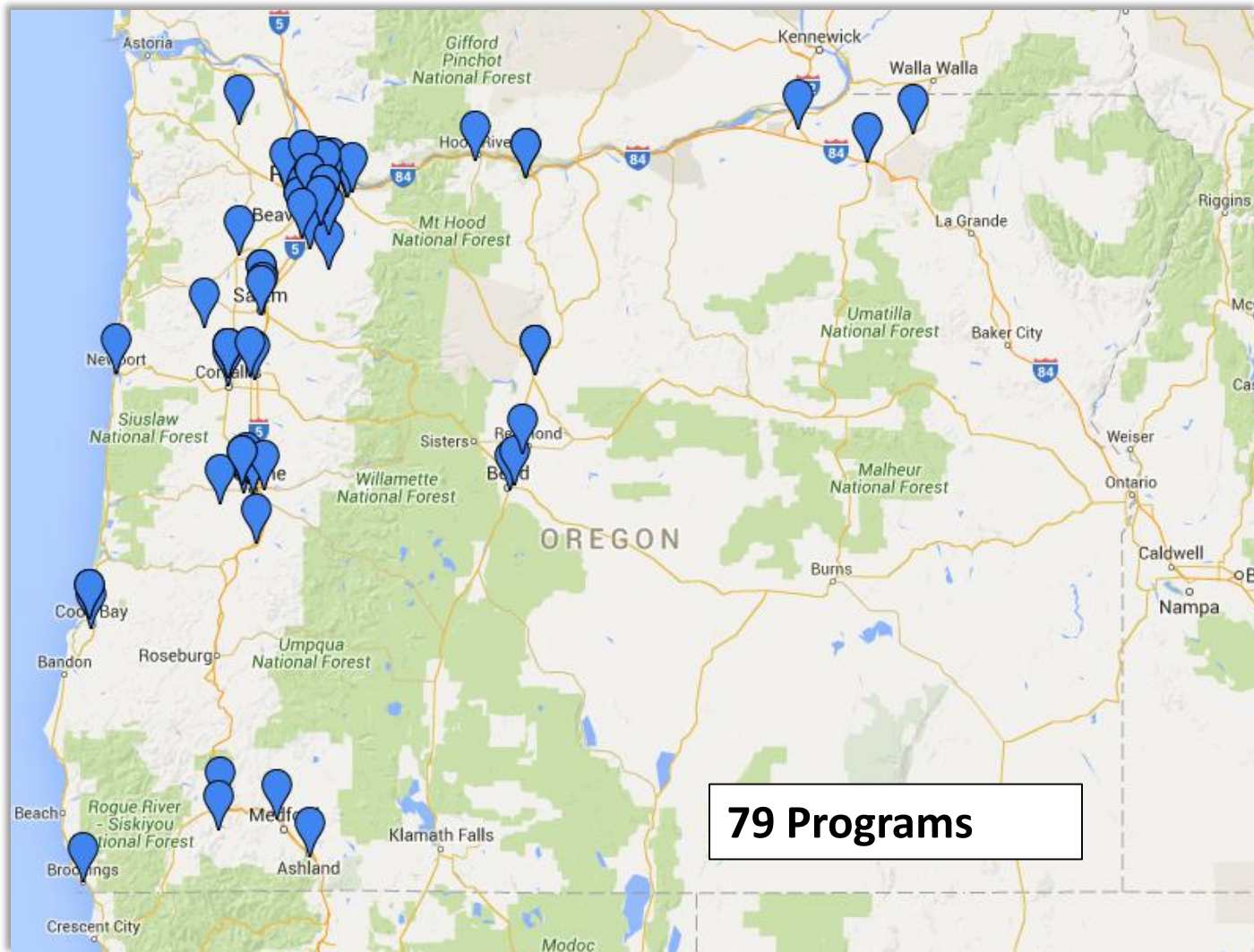


# Agriculture, Food & Natural Resources

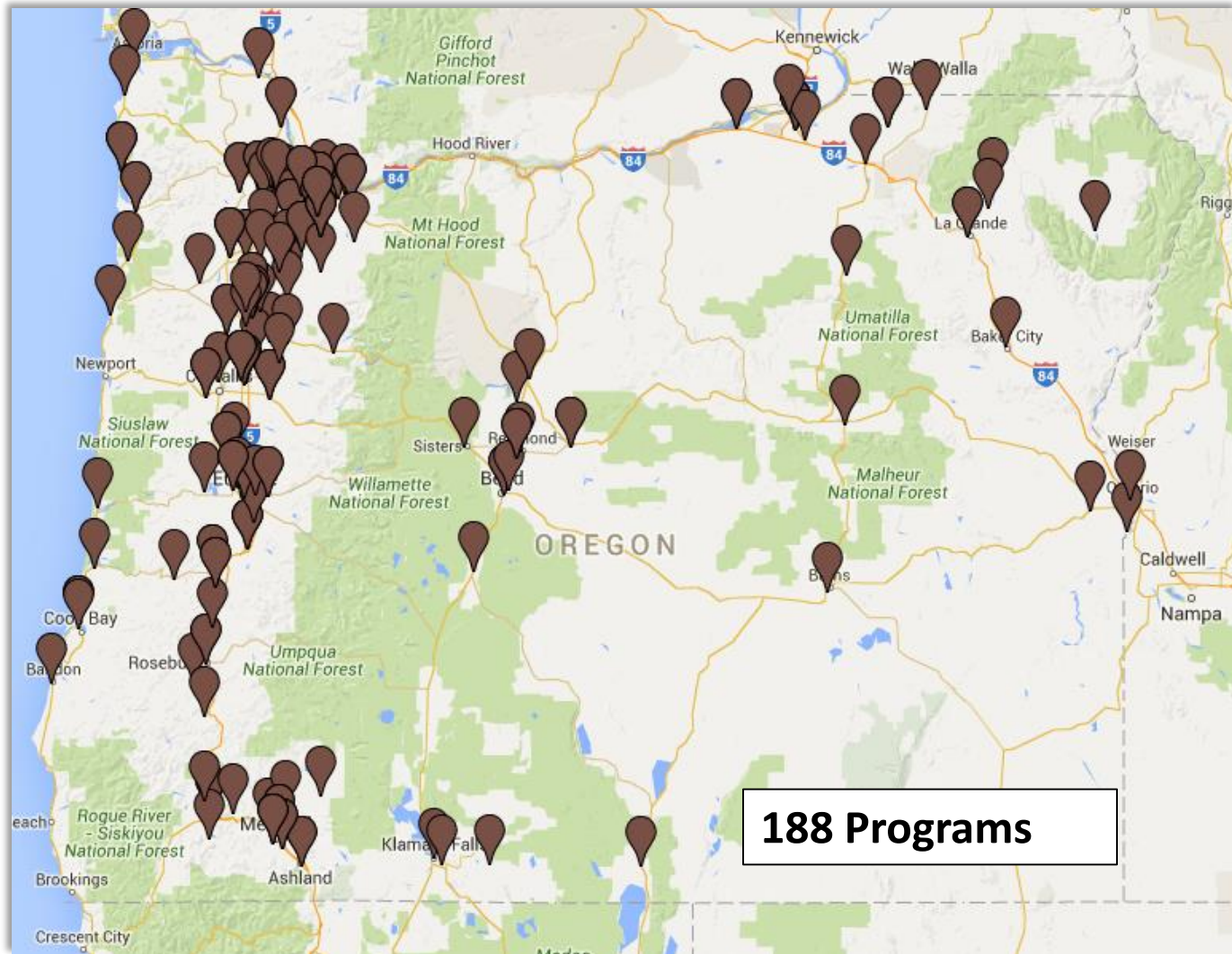




# Arts, Information & Communication

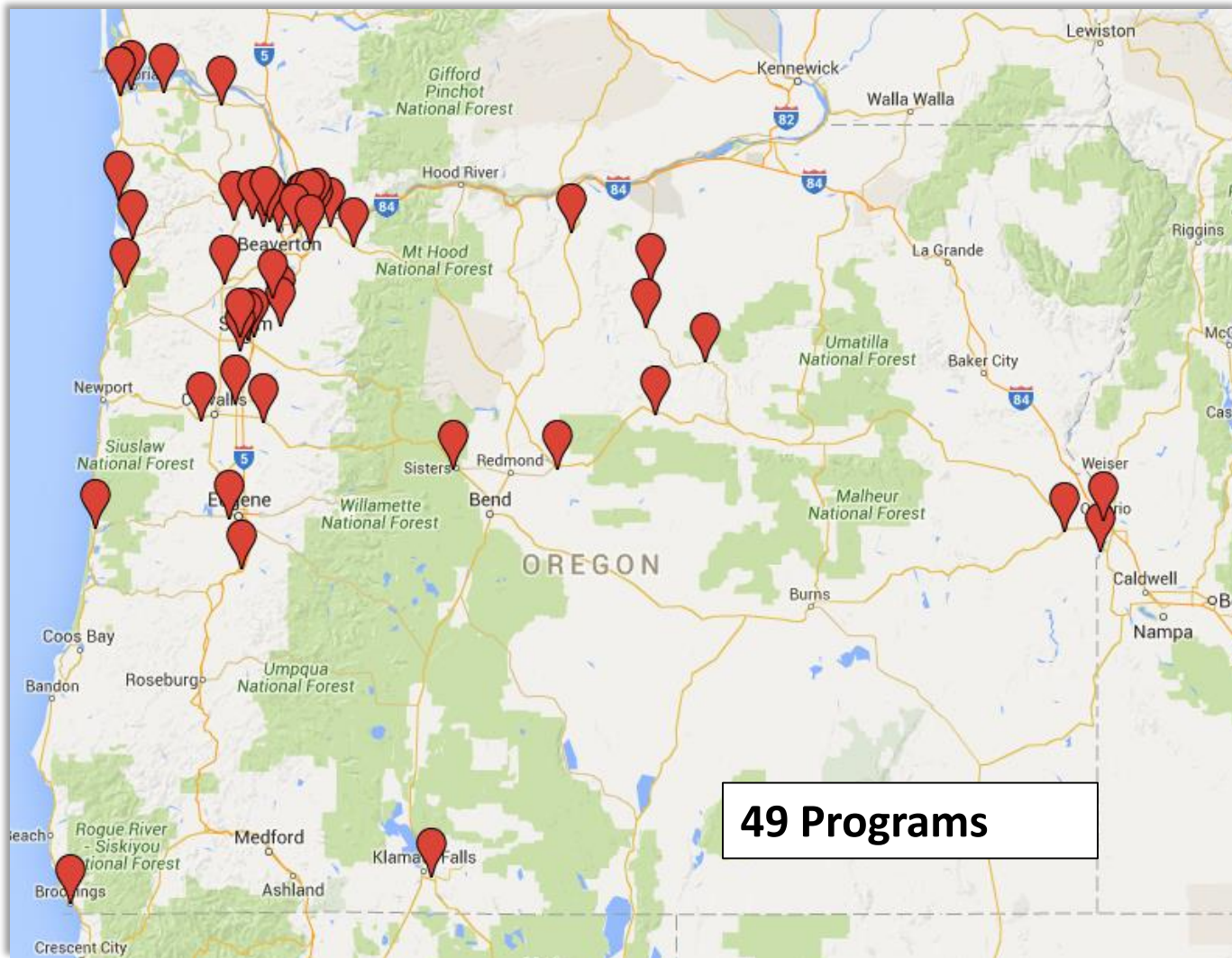


# Business & Management

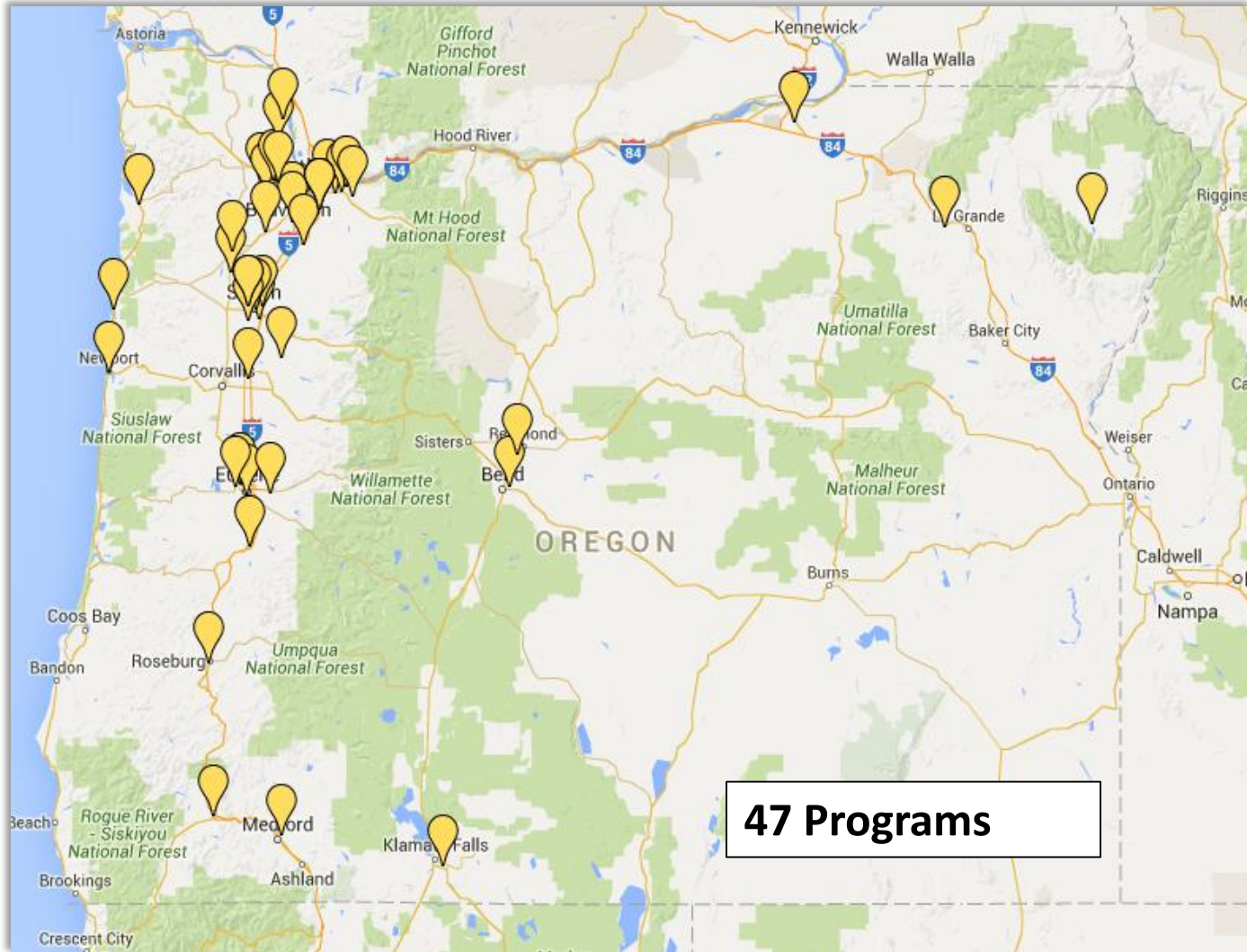




# Health Sciences

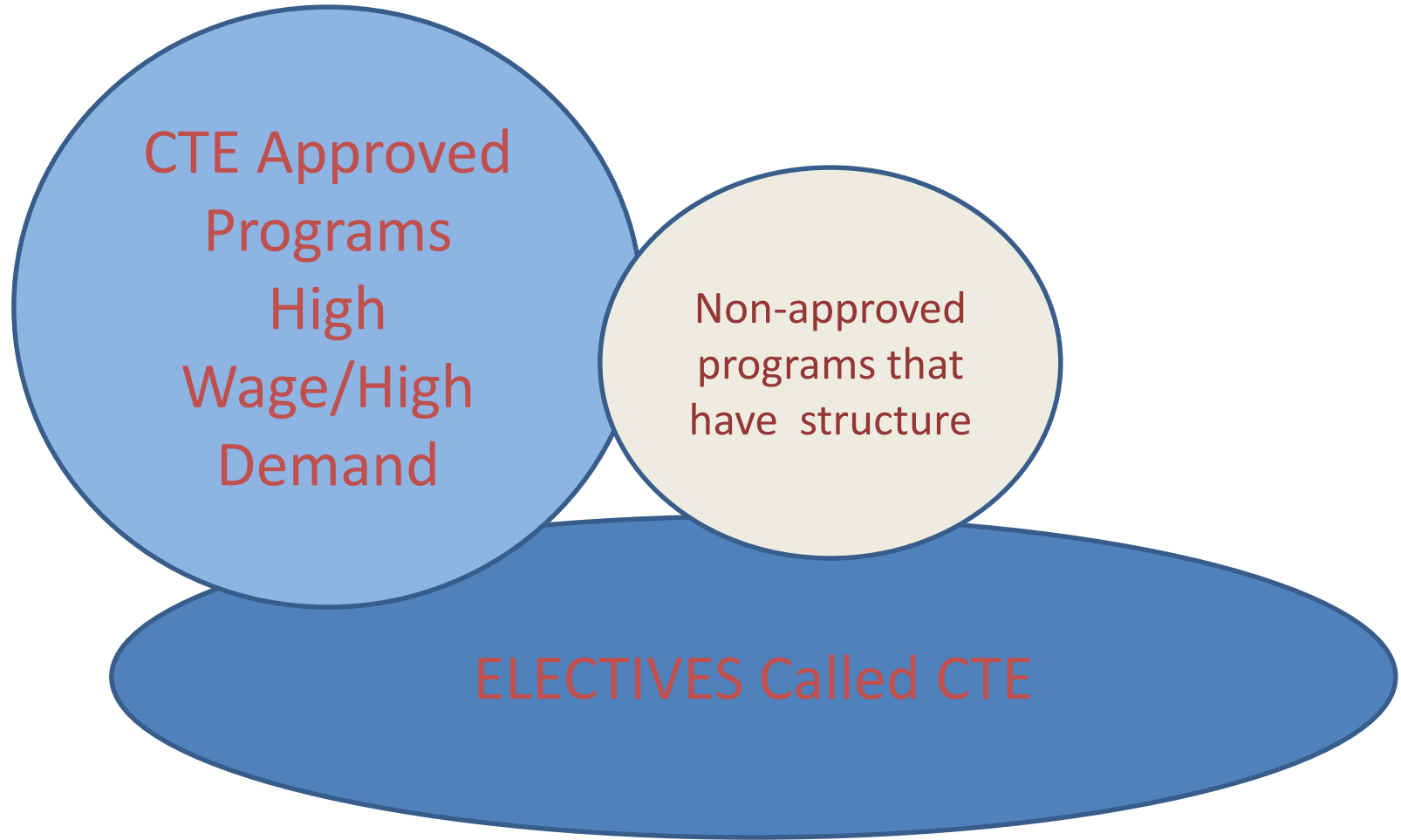


# Human Resources





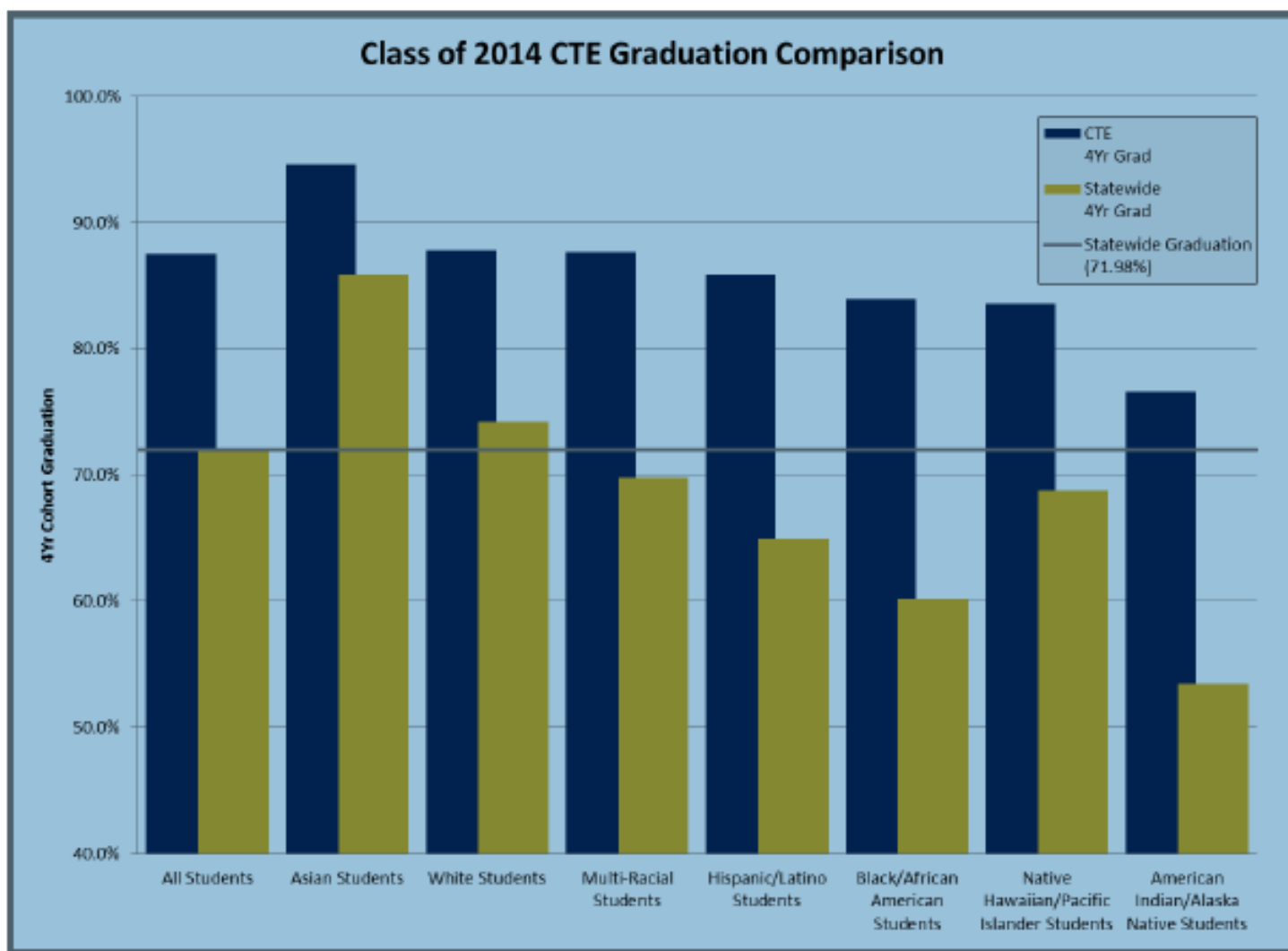




## CTE Secondary Dedicated FUNDING

- Perkins Federal Grants- census based  
**\$13m 50/50 split with community colleges**
  - CTE Revitalization \$9m
  - Career Pathways Secondary \$8.75m
  - Summer Programs- \$1.75m
  - Student Leadership Orgs. \$0.75m
  - Course Equivalency \$0.12m
  - Teacher Development & Mentoring \$1.10m
- 
- \$21.5m





The CTE Achievement Gap is also significant for other subpopulations whose students currently graduate below the statewide average of 72.0%.



# BENEFITS OF CONCENTRATION

STUDENTS WHO CONCENTRATE IN A SINGLE PROGRAM OF STUDY ARE...



**21** PERCENTAGE  
POINTS

MORE LIKELY TO  
GRADUATE FROM  
HIGH SCHOOL



**1** PERCENTAGE  
POINT

MORE LIKELY TO  
ENROLL IN A  
TWO-YEAR COLLEGE



**1** PERCENTAGE  
POINT

MORE LIKELY TO  
BE EMPLOYED  
AFTER HIGH SCHOOL



**\$45** PER  
QUARTER

BETTER COMPENSATED  
IN THE YEAR  
AFTER HIGH SCHOOL

...COMPARED TO SIMILAR STUDENTS WHO TAKE THE SAME NUMBER  
OF COURSES BUT DO NOT CONCENTRATE.

# Post-secondary Career Pathways

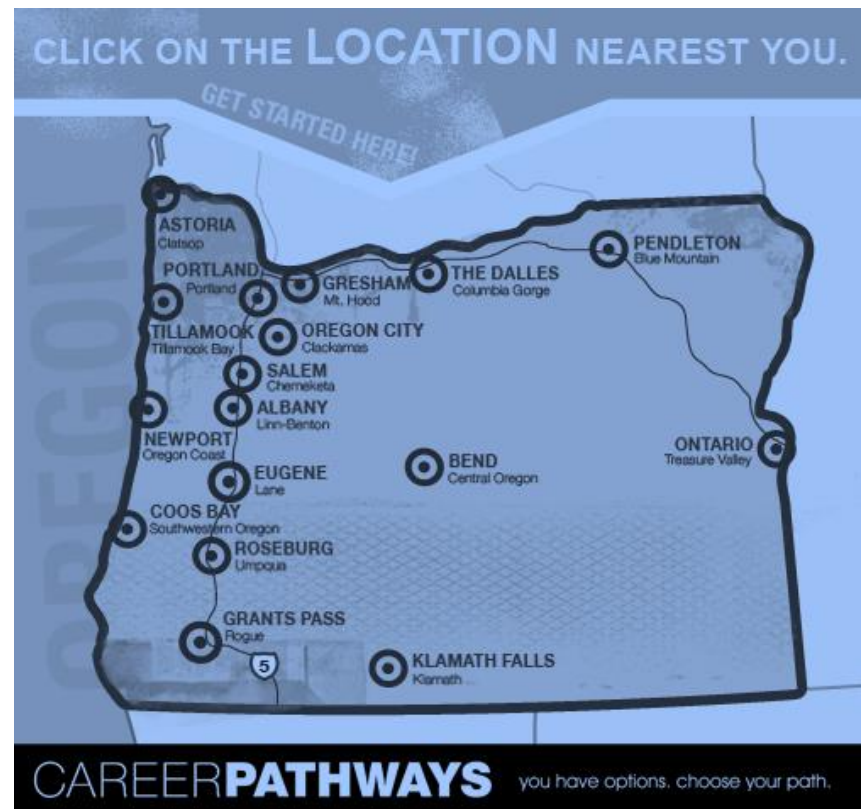
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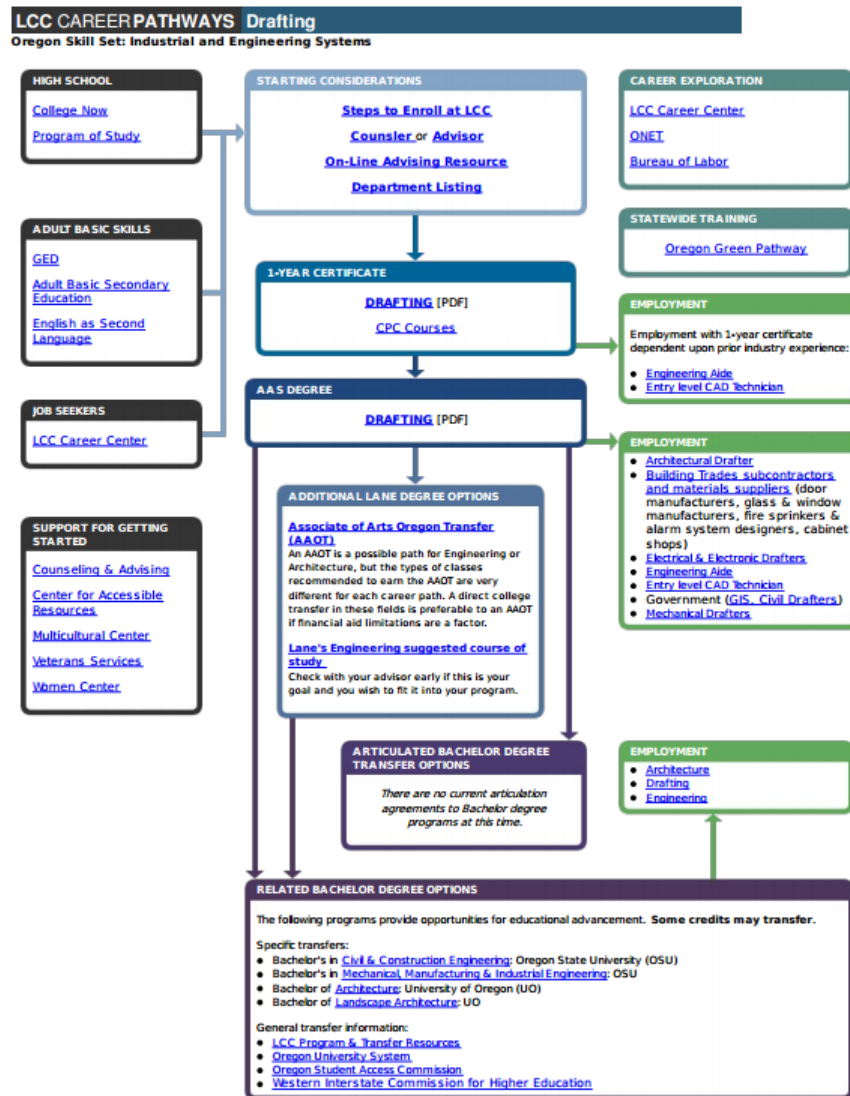
# What is a Career Pathway?

Career Pathways are linked education and training services that enable students, often while they are working, to advance over time to successfully reach higher education and employment goals.

- Launched in 2004 through the National Governors Association's Pathways to Advancement Initiative, Oregon's Career Pathways Initiative began with five colleges. In 2006, the Initiative expanded to 11 colleges and scaled to all 17 community colleges in spring 2007.
- Career Pathway Certificates of Completion (CPC) are between 12-44 credits and are fully embedded in an Associate of Applied Science degree or One Year Certificate.
- Currently there are more than 240 Career Pathway Certificates offered at Oregon's 17 community colleges.

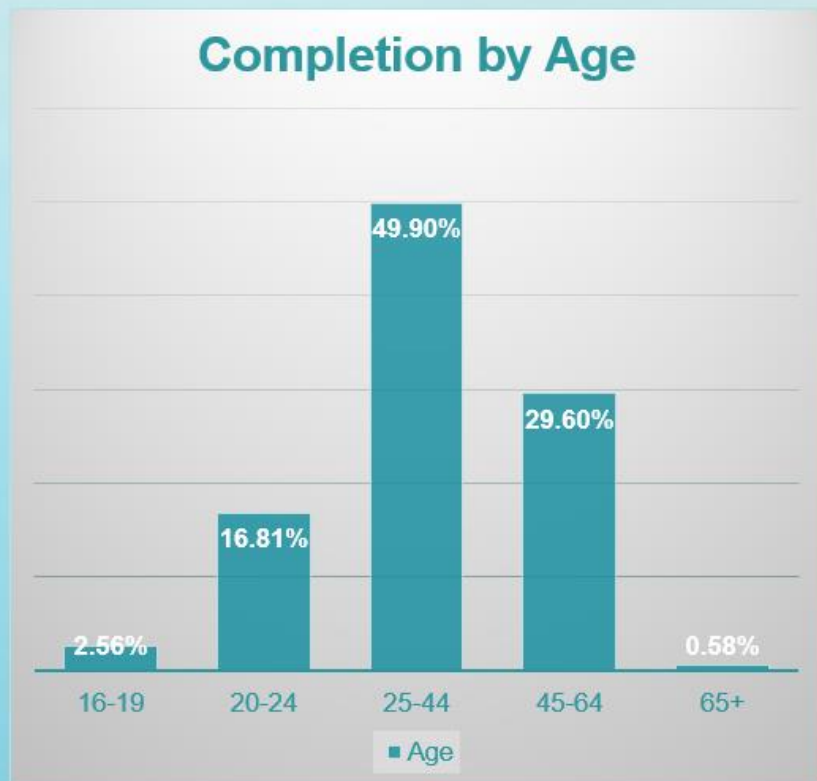


# Career Pathways Road Map

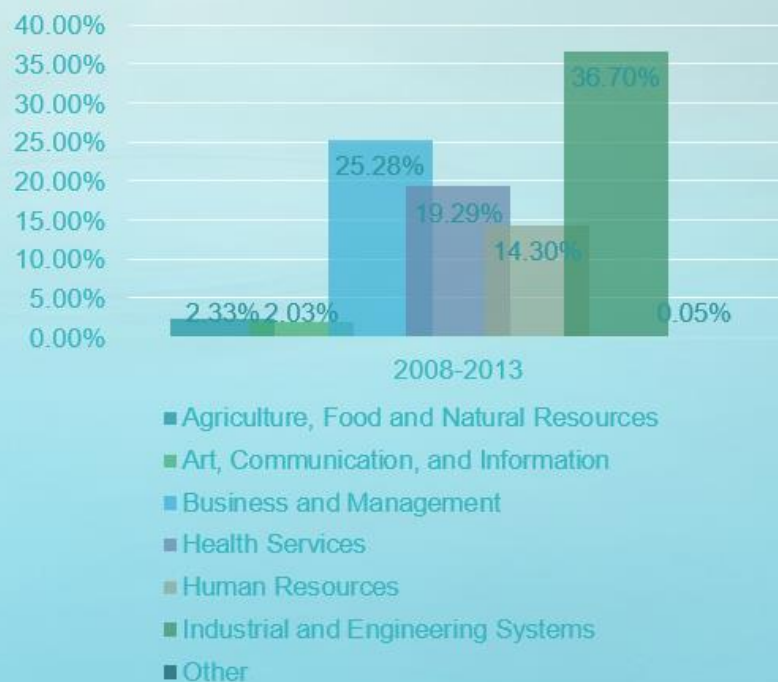


# Career Pathway Certificates by Focus Area

## Completion by Age

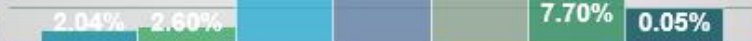


## Career Pathway Certificates



# Career Pathway Certificates by Gender and Focus Area

## Women



2008-2013

- Agriculture, Food and Natural Resources
- Art, Communication, and Information
- Business and Management
- Health Services
- Human Resources
- Industrial and Engineering Systems
- Other

## Men



2008-2013

- Agriculture, Food and Natural Resources
- Art, Communication, and Information
- Business and Management
- Health Services
- Human Resources
- Industrial and Engineering Systems
- Other



# CAREERPATHWAYS

click on your school or college  
to get started

Learn About Career & Technical Education (CTE)  
Programs at Oregon's High Schools & Community Colleges

RESET

## HIGH SCHOOLS

Ashland High School  
Churchill High School  
Cottage Grove High School  
Creswell High School  
Crow High School  
Eagle Point High School  
Junction City High School  
McKenzie High School  
North Eugene High School  
North Medford High School  
Sheldon High School  
Siuslaw High School  
South Eugene High School  
South Medford High School  
Springfield High School  
Thurston High School  
Willamette High School

## COMMUNITY COLLEGES

College  
Clatsop Community College  
Columbia Gorge Community College  
Klamath Community College  
**Lane Community College**  
Linn-Benton Community College  
Mt. Hood Community College  
Oregon Coast Community College  
Portland Community College  
Rogue Community College  
Southwestern Oregon Community College  
Tillamook Bay Community College  
Treasure Valley Community

## CAREER AREAS

Agriculture, Food and Natural Resources  
Arts, Information and Communications  
Business and Management  
**Health Services**  
Human Resources  
Industrial and Engineering Systems

## PROGRAMS

Dental Assisting  
Computer Information Systems  
Computer Information Systems-Health Informatics  
EMT-Paramedicine  
Exercise and Movement Science  
Health Records Technology  
Nursing  
Physical Therapist Assistant

<http://oregon.cteprogramsofstudy.org/#/cc/5>

## Some of the work ahead

- Operationalizing the STEM/CTE Strategic plan
- CTE/STEM educator workforce
- Expand CTE revitalization efforts to include middle school
- Improved career information system
- Increased alignment of pathways between HS and post-secondary with workforce needs
- Mathways and major pedagogical shifts
- Capacity and program equity in rural areas



# Questions?

